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(ii) TITLE OF INVENTION: Human Uncoupling Protein 3

(iv) CORRESPONDENCE ADDRESS:

(v) COMPUTER READABLE FORM:

(vi) CURRENT APPLICATION DATA:

(viii) ATTORNEY/AGENT INFORMATION:

(ix) TELECOMMUNICATION INFORMATION:

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 404 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

47

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

AAGCTGCTGG ACTACCACCT GCTC

24

5 (2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 base pairs

(B) TYPE: nucleic acid

10 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

15 (A) DESCRIPTION: /desc = "oligonucleotide"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

20

TACTGCCCTG GAGGTGAGTT CA

22

(2) INFORMATION FOR SEQ ID NO:7:

25 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "oligonucleotide"

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

40 CCAAGCCCAA CAATCCTTTG A

21

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

45 (A) LENGTH: 21 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

50 (A) DESCRIPTION: /desc = "oligonucleotide"

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

CCAAAGGATC CAGAGACTTG G

21

(2) INFORMATION FOR SEQ ID NO:9:

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- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

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- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "oligonucleotide"

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TTGTGTGGAA TTGTGAGCGG ATAAC

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(2) INFORMATION FOR SEQ ID NO:10:

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- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 22 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

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- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "oligonucleotide"

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

CCAGGGTTTT CCCAGTCACG AC

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(2) INFORMATION FOR SEQ ID NO:11:

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- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 2340 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

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- (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

TCGAACTCAC TCACCTCCCC TCTACCTCA CTGCCCTCAC CAGCCAGCCT CTTGTCAAGT

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GATCAGGCTG TCAACCAACT TCTCTAGGAT AAGGTTTCAG GTCAGCCTGT GTGTATAAGA

120

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Gly Leu Tyr Asp Ser Val Lys Gln Val Tyr Thr Pro Lys Gly Ala Asp
100 105 110

Asn Ser Ser Leu Thr Thr Arg Ile Leu Ala Gly Cys Thr Thr Gly Ala
 115 120 125
 5 Met Ala Val Thr Cys Ala Gln Pro Thr Asp Val Val Lys Val Arg Phe
 130 135 140
 Gln Ala Ser Ile His Leu Gly Pro Ser Arg Ser Asp Arg Lys Tyr Ser
 145 150 155 160
 10 Gly Thr Met Asp Ala Tyr Arg Thr Ile Ala Arg Glu Glu Gly Val Arg
 165 170 175
 Gly Leu Trp Lys Gly Thr Leu Pro Asn Ile Met Arg Asn Ala Ile Val
 180 185 190
 15 Asn Cys Ala Glu Val Val Thr Tyr Asp Ile Leu Lys Glu Lys Leu Leu
 195 200 205
 Asp Tyr His Leu Leu Thr Asp Asn Phe Pro Cys His Phe Val Ser Ala
 210 215 220
 Phe Gly Ala Gly Phe Cys Ala Thr Val Val Ala Ser Pro Val Asp Val
 225 230 235 240
 25 Val Lys Thr Arg Tyr Met Asn Ser Pro Pro Gly Gln Tyr Phe Ser Pro
 245 250 255
 Leu Asp Cys Met Ile Lys Met Val Ala Gln Glu Gly Pro Thr Ala Phe
 260 265 270
 30 Tyr Lys Gly Phe Thr Pro Ser Phe Leu Arg Leu Gly Ser Trp Asn Val
 275 280 285
 Val Met Phe Val Thr Tyr Glu Gln Leu Lys Arg Ala Leu Met Lys Val
 290 295 300
 35 Gln Met Leu Arg Glu Ser Pro Phe
 305 310

40 (2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

(A) DESCRIPTION: /desc = "oligonucleotide"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

CATAGAATTC CAGGACTATG GTTGGAC

27

(2) INFORMATION FOR SEQ ID NO:14:

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- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 28 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

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- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "oligonucleotide"

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

CATTCTCGAG CTACCAGTGG CCTTCTTG

28

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(2) INFORMATION FOR SEQ ID NO:15:

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- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

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- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "oligonucleotide"

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

CCCGGATCGG ACTACTAGCA

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(2) INFORMATION FOR SEQ ID NO:16:

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- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

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- (ii) MOLECULE TYPE: other nucleic acid
 - (A) DESCRIPTION: /desc = "oligonucleotide"

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

GGGGGGAGGG CGTGAATGTA A

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(2) INFORMATION FOR SEQ ID NO:17:

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GTCCTCCGTG TTTCGTCTTA AAACACCTCT GTTTTGCACT GACCTGATGG GAAATAAATT 1320
 ATATTAATTT TTAAACCCCTT TCCGGTTGGA TGCCTAACAT TTAGGCAAGA GACAACAAAG 1380
 5 AAAACCAGAG TCAACTCCCT TGAAATGTAG GAATAAAGGA TGCATAATAA ACAGGAAAGG 1440
 CACAGGTTTT GAGAAGATCA GCCCACAGTG TTGTCCTTGA ATCAAACAAA ATGGTCGGAG 1500
 10 GAACCCCTTCG GGTTCAGCAC AAAGAGGTGA CTACAGCCTT TTGGTCACCA GATGACTCCG 1560
 CCCCTTTGTA ATGAGTCTGC CAAGTAGACT CTATCAAGAT TCTGGGGAAA GGAGAAAGAA 1620
 CACATTGACC TGCCCGGGCG GCCGCTCGAG CCCTATGA 1658

15 (2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 308 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- 25 (A) DESCRIPTION: /desc = "oligonucleotide"

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Met Val Gly Leu Gln Pro Ser Glu Val Pro Pro Thr Thr Val Val Lys
 1 5 10 15
 Phe Leu Gly Ala Gly Thr Ala Ala Cys Phe Ala Asp Leu Leu Thr Phe
 20 25 30
 Pro Leu Asp Thr Ala Lys Val Arg Leu Gln Ile Gln Gly Glu Asn Pro
 35 40 45
 Gly Ala Gln Ser Val Gln Tyr Arg Gly Val Leu Gly Thr Ile Leu Thr
 50 55 60
 Met Val Arg Thr Glu Gly Pro Arg Ser Pro Tyr Ser Gly Leu Val Ala
 65 70 75 80
 45 Gly Leu His Arg Gln Met Ser Phe Ala Ser Ile Arg Ile Gly Leu Tyr
 85 90 95
 Asp Ser Val Lys Gln Phe Tyr Thr Pro Lys Gly Ala Asp His Ser Ser
 100 105 110
 Val Ala Ile Arg Ile Leu Ala Gly Cys Thr Thr Gly Ala Met Ala Val
 115 120 125
 55 Thr Cys Ala Gln Pro Thr Asp Val Val Lys Val Arg Phe Gln Ala Met
 130 135 140

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35      (2) INFORMATION FOR SEQ ID NO:19:
          (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 17 base pairs
              (B) TYPE: nucleic acid
40              (C) STRANDEDNESS: single
              (D) TOPOLOGY: linear

          (ii) MOLECULE TYPE: other nucleic acid
              (A) DESCRIPTION: /desc = "degenerate oligonucleotide"
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50 CCNCTGGAYA CNGCYAA

55 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 17 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: other nucleic acid
 (A) DESCRIPTION: /desc = "degenerate oligonucleotide"

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

CAGCCACNG ANGTNGT

17

15 (2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 17 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: other nucleic acid
 (A) DESCRIPTION: /desc = "degenerate oligonucleotide"

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

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TTCACCACRT CNACNGG

17